

Notice of Allowability

Application No.

10/047,554

Examiner

Lynette T. Umez-Eronini

Applicant(s)

WOJTCZAK ET AL.

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/23/2004.
2. ☒ The allowed claim(s) is/are 1-21,25-34,38-47 and 51-58.
3. ☒ The drawings filed on 23 October 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☒ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 11/3/2004.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. Claims 1-21, 25-29, and 56-58 are directed to an allowable product. Pursuant to the procedures set forth in the Official Gazette notice dated March 26, 1996 (1184 O.G. 86), claims 30-34, 38-47, and 51-55 are directed to the process of making or using the patentable product, previously withdrawn from consideration as a result of a restriction requirement, is now subject to being rejoined. Claims 30-34, 38-47, and 51-55 are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Since all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, the restriction requirement made in the Office action mailed on 10/15/2003 is hereby withdrawn.

2. Applicant is now required to submit a substitute declaration or oath to correct the deficiencies set forth in this communication, which should correct filing dates of applications 09/818,073 and 08/924,021. The substitute oath or declaration must be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability" (PTO-37). Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136. Failure to timely file the substitute declaration (or oath) will result in **ABANDONMENT** of the application. The transmittal letter accompanying the declaration (or oath) should indicate the date of the "Notice of Allowance" (PTOL-85) and the application number in the upper right hand corner.

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Marianne Fuierer on November 3, 2004.

The application has been amended as follows:

In claim 17, line 6, after "from", insert --the group consisting of--;

In claim 30, line 9, after "from", insert --the group consisting of--;

In claim 57, line 5, after "from", insert --the group consisting of--;

The specification filed 6/5/2002 has been amended as follows:

On page 1, line 19, delete "3" then insert --27--;

On page 1, line 22, delete "." then insert --, and which is now US 6,755,989--;

On page 1, line 29, delete "3" then insert --27--; and

On page 1, line 30, delete "." then insert --, and which is now US 6,755,989--.

The following is an examiner's statement of reasons for allowance:

As to claims 1-16, Applicants presented persuasive arguments in Remarks (filed 7/29/2004 on pages 31-33), which show the prior art of record fails to suggest, teach, or render obvious a post CMP cleaning formulation comprising an organic amine, a fluoride source and 70% to 98% water by weight, wherein the pH is between 7 and about 9, in combination with the rest of the limitations of the said claims;

As to claims 17-21 and 25-29, Applicants presented persuasive arguments in Remarks (filed 7/29/2004 on pages 33-34), which show the prior art of record fails to suggest, teach, or render obvious a post CMP cleaning formulation comprising a nitrogenous component selected from the group consisting of nitrogen-containing carboxylic acids and imines, in combination with the rest of the limitations of the said claims;

As to claim 30-34 and 38-42, the prior art of record fails to suggest, teach, or render obvious a method for fabricating a semiconductor wafer, comprising contacting same with a cleaning formulation comprising: a nitrogenous component, selected from the group consisting of nitrogen-containing carboxylic acids and imines, in combination with the rest of the limitations of the said claims;

As to claims 43-47 and 51-54, the prior art of record fails to suggest, teach, or render obvious a method for fabricating a semiconductor wafer, comprising contacting same with a cleaning formulation comprising: a nitrogen-containing carboxylic acid or imine, in combination with the rest of the limitations of the said claims;

As to claim 55, the prior art of record fails to suggest, teach, or render obvious a method of removing residue from a wafer following a resist plasma ashing step on said wafer, comprising contacting the wafer with a cleaning formulation including: a nitrogen-containing carboxylic acid or an imine, in combination with the rest of the limitations of the said claim;

As to claim 56, the prior art of record fails to suggest, teach, or render obvious a wafer cleaning formulation including a nitrogen-containing carboxylic acid or an imine,

wherein the pH or the cleaning formulation is between 7 and about 9, in combination with the rest of the limitations of the claim;

As to claim 57, the prior art of record fail to suggest, teach, or render obvious a semiconductor wafer cleaning formulation comprising a nitrogenous component, selected from the group consisting of nitrogen-containing carboxylic acids and imines, wherein said formulation includes a metal chelating agent of the formula, $R_1R_2R_3R_4N^{+}O_2CCF_3$ in which each of the R groups is independently hydrogen or aliphatic, in combination with the rest of the limitations of the claim;

As to claim 58, the prior art of record fail to suggest, teach, or render obvious a semiconductor cleaning formulation comprising: a nitrogenous component, selected from the group consisting of nitrogen-containing carboxylic acids and imines, wherein said nitrogenous component includes a compound having the formula: $COOH-CH_2-NRR'$ wherein each of R and R' is independently selected from the group consisting of hydrogen, alkyl, aryl, and carboxylic acid, in combination with the rest of the limitations of the said claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynette T. Umez-Eronini whose telephone number is 571-272-1470. The examiner is normally unavailable on the First Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 1765

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October 19, 2004

Anita Alanko
ANITA ALANKO
PRIMARY EXAMINER